

ABSTRACT

A system for transferring data from a host computing system 10 to a magnetic tape cartridge 12. Data from the host computing system 10 is buffered in a burst buffer 14 before transfer to a logical formatter 16, where data is compressed and converted to a format suitable for storage on the magnetic tape cartridge 12. The logical formatter 16 arranges the data into 'datasets'. The datasets are written sequentially into a main buffer 24 and, as each row of a dataset is written into the main buffer 24, parity bytes (Reed-Solomon) are added.

Datasets are taken sequentially from the main buffer 24 by the physical formatter 26 and written to the magnetic tape 12 via a number of read heads. A read head 34 follows each write head 30 to evaluate the written data for quality. An error processing unit 36 checks the data read by the read head 34 and determines whether or not there are more than a predetermined number of errors in each codeword. If the number of errors in a codeword is found to be equal to or less than the predetermined number, the error processing unit returns a positive output for that codeword. If, however, the number of errors detected in a codeword is greater than the predetermined number, the error processing unit returns a negative output (C1 failure) for that codeword. A write chain controller 38 receives the output from the error processing unit 36 and, if the number of C1 failures in a set of codewords exceeds a predetermined number, it causes that set to be rewritten.

[Figures 1, 7]